Mapping Volcanic and Earthquake Activity

Name _____ Date _____

Science ____

In this activity you will locate where some of the major volcanic and earthquake activities have occurred. You will examine if there is a relationship between the location of these volcanoes and earthquakes and the crustal plates. You will also see if there is a relationship between volcanic and earthquake activity and the major mountain ranges of the world.

MATERIALS: map of the world, data sheet, colored pencils, map of the crustal plates.

PROCEDURE:

1. On the map of the world, draw in the crustal plates; include arrows showing the directions the plates are moving. Use the attached plate tectonic boundaries for reference.
2. Using the data sheet, find the location of the volcanoes. Locate volcano A. With a colored pencil, mark a on the map at that location. Remember that longitude marked is across the top and Latitude is marked along the side of the map. Continue this until you have located all 17 volcanoes marked their location on the map.
3. Using the data sheet, find the locations of the major earthquakes. Locate earthquake 1. With a different colored pencil, mark a 1 on the map at that location. Continue this until all of the earthquakes have been located and marked on the map.
4. Using the data sheet, find the major mountain ranges of the world. Locate their ranges and with another colored pencil mark each of their locations on your map. Use upside down Vs to mark the mountain ranges.

DATA SHEET

MAJOR VOLCANOES*

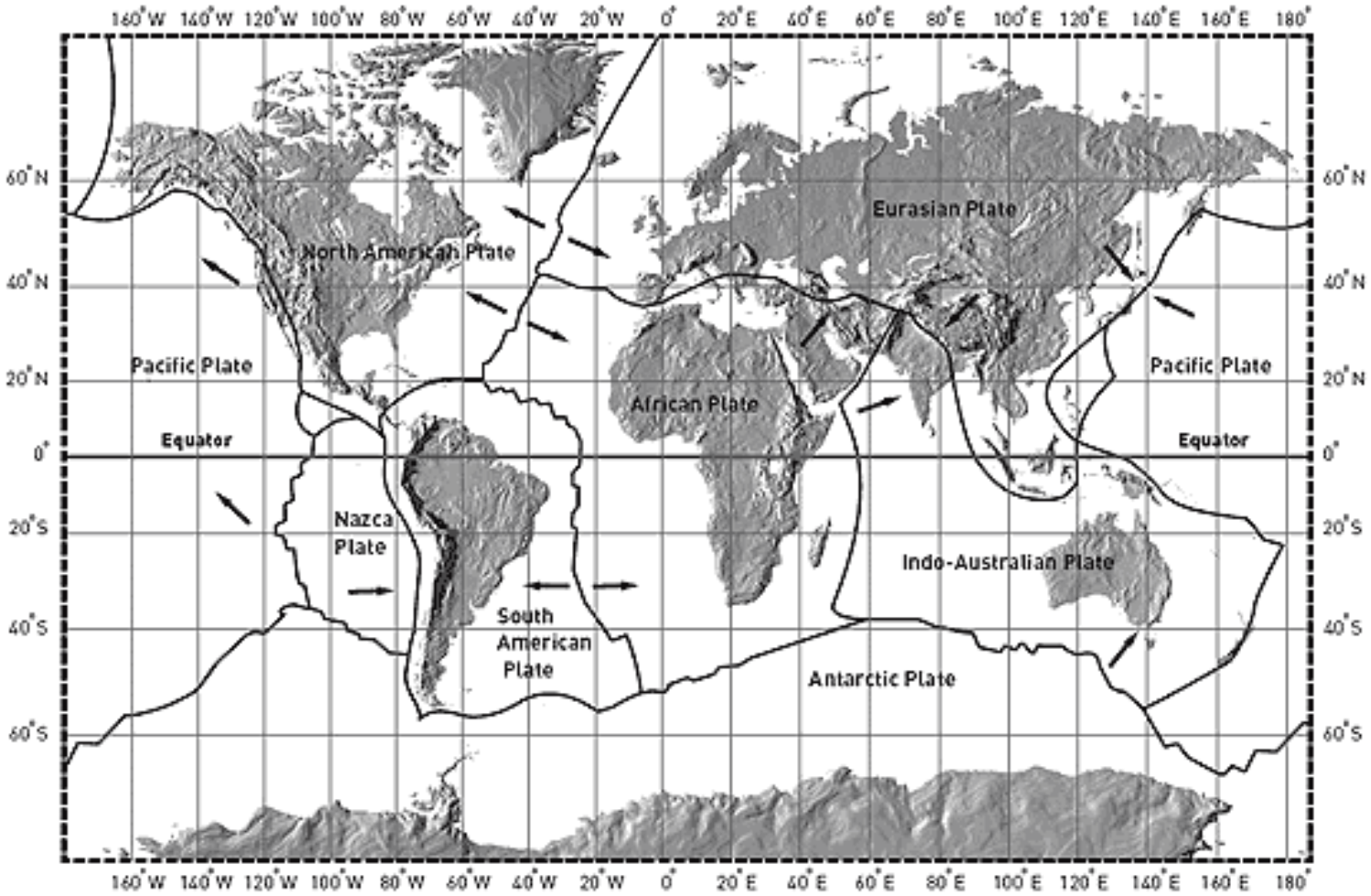
Volcanos	Name	Longitude	Latitude
A	Aconcagua	70W	35S
B	Tungurahua	80W	0N
C	Pelee	61W	15N
D	Tajumulco	90W	15N
E	Popocatepetl	100W	20N
F	Lassen	122W	40N
G	Rainier	122W	47N
H	Katmai	155W	60N
I	Fujiyama	139E	35N
J	Tambora	120E	10S
K	Krakatoa	108E	5S
L	Mauna Loa	155W	20N
M	Kilimanjaro	37E	3S
N	Etna	15E	38N
O	Vesuvius	14E	41N
P	Teide	16W	28N
Q	Laki	20W	65N

MAJOR EARTHQUAKES*

Earthquakes	Location	Longitude	Latitude
1	China	110E	35N
2	India	88E	22N
3	Pakistan	65E	25N
4	Syria	36E	34N
5	Italy	16E	38N
6	Portugal	9W	38N
7	Chile	72W	33S
8	Chile	75W	50S
9	Equador	78W	0
10	Nicaragua	85W	13N
11	Guatemala	91W	15N
12	California	118W	34N
13	California	122W	37N
14	Alaska	150W	61N
15	Japan	139E	36N
16	Japan	143E	43N

Natural Hazards

Tectonic Plates



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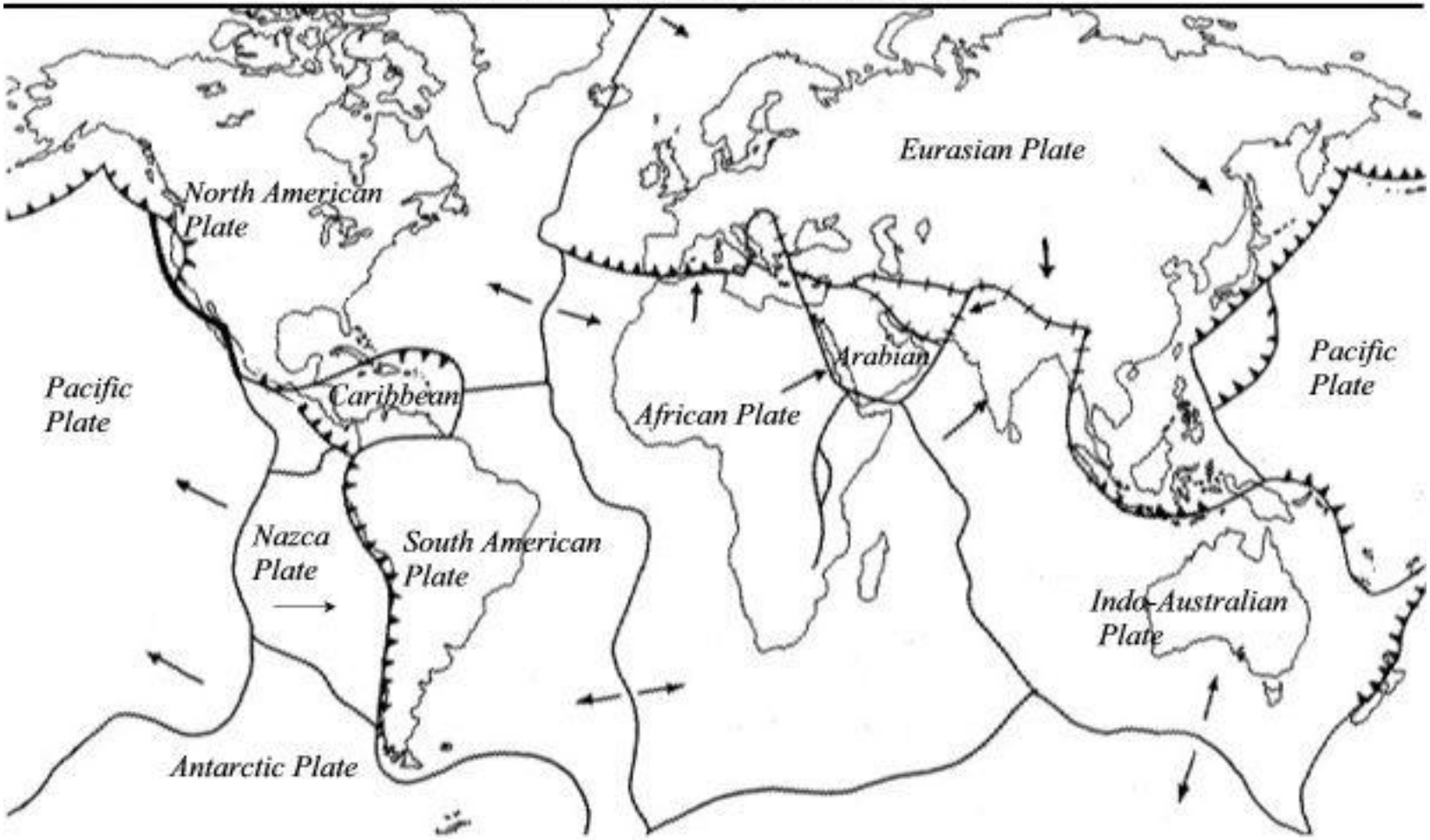
4 LEARNING

Major Plate Boundaries

The earth's crust is broken up into a series of plates.



5. Answer the following questions from your experience with this assignment and by exploring links on your science teacher's website.

   A. Which ocean has a ring of volcanoes around it?

   B. Where are most of the volcanoes located in relationship to the crustal plates?

   C. Which volcanoes are not located on the edge of a crustal plate? What might account for the location of these volcanoes?

   D. Where are most of the major earthquakes in relationship to the crustal plates? Does the recent earthquake data obtained from the Internet follow the same pattern? Why or why not?

   E. What is the relationship between the location of the major volcanoes with the location of the major earthquakes?

F. Are most mountain ranges located in an area of major earthquake and or volcanic areas?

G. Are there any major earthquakes not located on the edge of crustal plates? Can you explain the location of these earthquakes?

H. Are all the mountain ranges listed found along the edge of crustal plates? Explain the locations of these mountains.